E616S/E610S

Agriculture drone frame

User manual

Thank you for purchasing this EFT product. Please strictly follow these steps to assemble your drone, Please regularly check the web page of corresponding product* at our website： www.effort-tech.com

Disclaimer & Warning

Please read this disclaimer carefully before using the product. By using this product, you hereby agree to this disclaimer and signify that you have read them fully.

THIS PRODUCT IS NOT SUITABLE FOR PEOPLE UNDER THE AGE OF 18.

For damage(s) or injuries incurred directly or indirectly from the use of this product in the following conditions:

1. Damage(s) or injuries incurred when users are drunk, taking drugs, drug anesthesia, dizziness, fatigue, nausea and any other conditions no matter physically or mentally that could impair your ability.

2. Damage(s) or injuries caused by subjective intentional operations. Any mental damage compensation caused by accident.

3. Failure to follow the guidance of the manual to assemble or operate.

4. Malfunctions caused by refit or replacement with non-EFT accessories and parts.

5. Damage(s) or injuries caused by using third party products or fake EFT products.

6. Damage(s) or injuries caused by mechanical failures due to erosion, aging.

7. Other losses that are not covered by the scope of EFT tech liability.
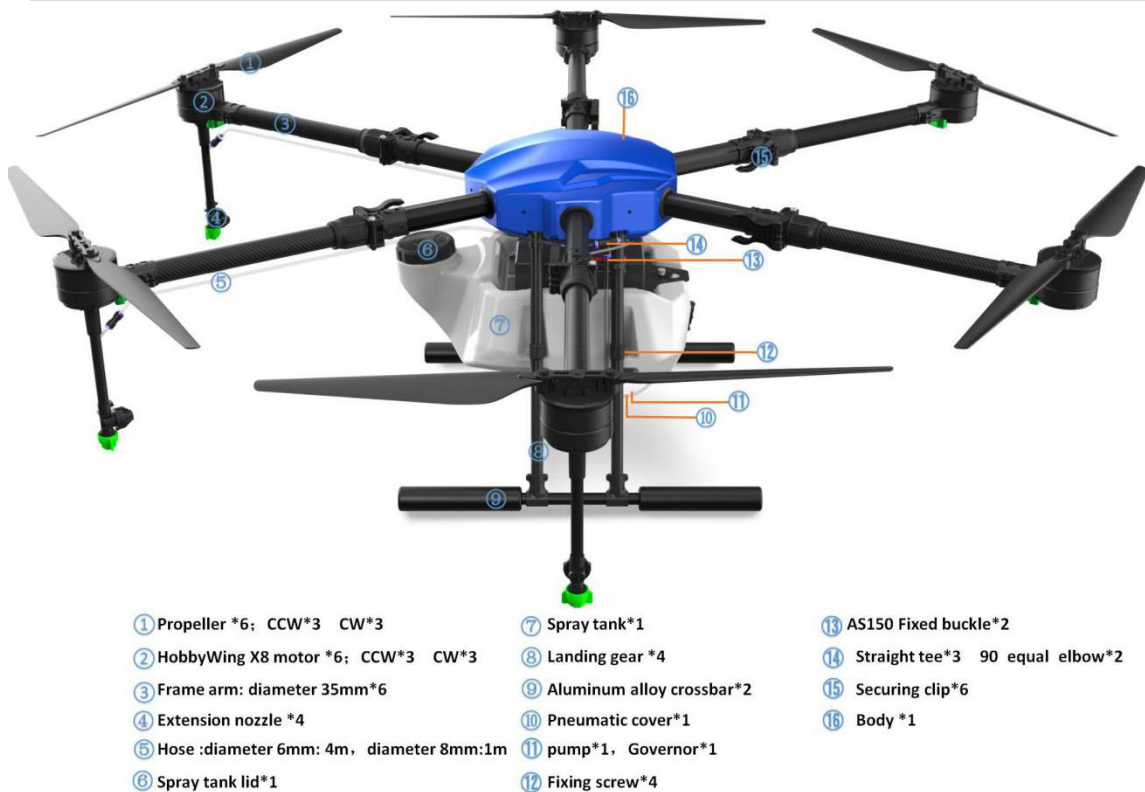
Familiar with E616S/E610S

The product is agricultural drone frame, rame is an important part of the drone, is not the whole, when you buy this product, you also need to buy flight control, battery, remote control and other related accessories, after assembly and debugging than it is operational。

E616S before the upgrade, and older products still have many common parts can be used, there are many accessories for the 616s and 616 that can be shared. The 616s has replaced the folding material of the arm, using nylon carbon fiber material and adding the C-type fixing clip.the frame structure is more stable, better performance.

Contents

Overview

① Propeller *6；CCW*3　CW*3　　　⑦ Spray tank*1　　　　　　　　⑬ AS150 Fixed buckle*2

② HobbyWing X8 motor *6；CCW*3　CW*3　⑧ Landing gear *4　　　　⑭ Straight tee*3　90 equal elbow*2

③ Frame arm: diameter 35mm*6　　　⑨ Aluminum alloy crossbar*2　⑮ Securing clip*6

④ Extension nozzle *4　　　　　　　⑩ Pneumatic cover*1　　　　　⑯ Body *1

⑤ Hose :diameter 6mm: 4m，diameter 8mm:1m　⑪ pump*1，Governor*1

⑥ Spray tank lid*1　　　　　　　　⑫ Fixing screw*4

⚠ **IMPORTANT**

- **1、Do not violently assemble during assembly. If you encounter difficulties, please call 0551-65536542**

- **2、When installing the pipe, do not bend excessively to avoid creases affecting the spraying effect.**

- **3、Be sure to connect the drone power supply after completing all installation and wiring.**

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Installation

⚠ **Threadlocker of medium strength is required for installation. First complete the unpacking inspection, then install Landing gear 、Body、Frame Arm.etc**

The installation steps are the same for E610/E610S/E616/E616S,in the figures below the E616s is shown

Unpacking inspection

EFT have provided the following documentation for the user.

1、《In the box》

2、《User manual》

3、Recommended that you use the 《In the box》to check whether the items are missing or damaged.If there is any problem, please contact the EFT in time. Please refer to the user manual for more comprehensive information

Mounting the Landing gear

1、Insert the carbon tube with the fixed parts of pot into the tee of landing gear, secure it in place using there M3*10 screws and M3*20 screw.

2.Note that the mounting direction of the fixed parts of pot is as shown in the figure, and it should be in line with the center screw of the tee of landing gear.
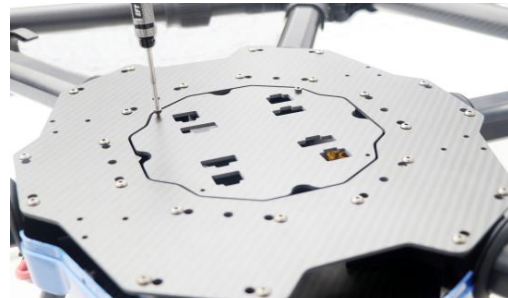
Mounting the Body

1、Unscrew the six M3*8 screws and open the Upper hood.

2. Unscrew the six M3*10 screws and remove the Center board.

3.Make sure cable, port, shell and other components are perfect.

4. Mount the power port module and align the ring pattern for installation.

5.Mount the power port module onto the landing gear leg, then mount the landing gear into the body, secure it in place using there M3*10 screws, the fixed parts of pot is facing inward .
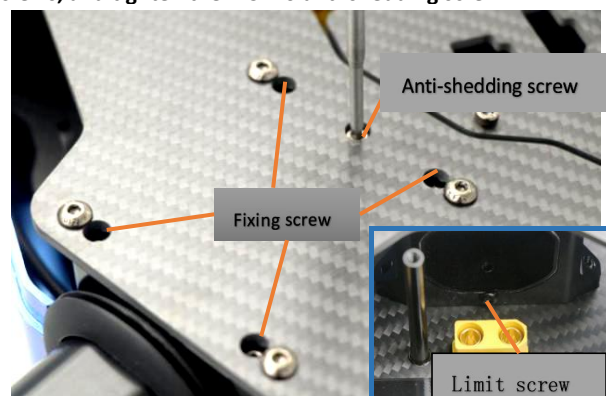

Mounting the Arm

1. Put the C-shaped clip on the screw hole of the folding part and tighten the M4*40 screw.

2. Unscrew the arm fixing screw of the body, insert the arm into the pipe clip, reach the limit screw, tighten the 4 fixing screws, and tighten the M3*10 anti-shedding screw.

Anti-shedding screw

Fixing screw

Limit screw

Mounting the Tank

1. Remove the bottom cover of the tank, install the pneumatic cover of the tank, Don't forget to install silicone pads.
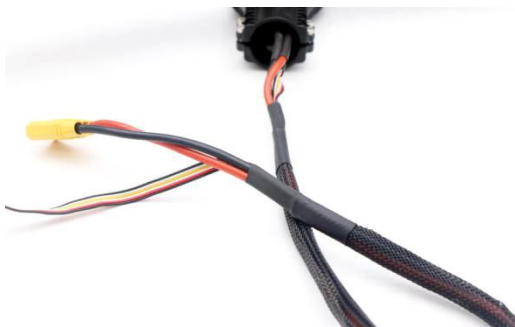
2、The mouth of the tank facing toward the front side of the aircraft. Install four M6*45 kit fixing screws with the L-wrench
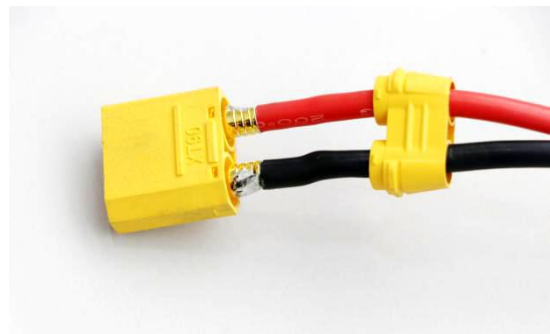
Mounting the power port

1.Use the tube to insert the power cord and the ESC signal wire. It is recommended to use 10mm heat shrink tubing tightens the ends of the wire to avoid bifurcation.

2.Welding XT90-M port, pay attention to the protective cap into the power line, distinguish between positive and negative.

3. After completing steps 1 and 2, pass the power and signal wires through the arm and insert them into the power board.

4.Motor Mounting seat and the body need to be on same level. Don't tighten the motor seat screw,makenecessary adjustment then tighten the scr ew.And insert the plug.
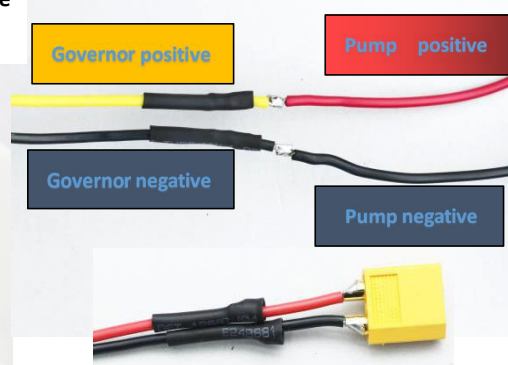
Mounting the spraying system

1.Mounting the pump. It is recommended to install at the bottom of the tank or behind the tank.,direction on the pump screw holes and tank screw holes aligned .Tighten the four M3*8 screws and connect the pneumatic cover_ with 8mm water pipe.

2. Welding governor XT60 port, the wiring diagram is detailed in the appendix. Welding pump and governor wiring.

Governor positive Pump positive

Governor negative Pump negative

3.Install the nozzle, remove the extension rod cushion, and insert the Ring gasket, Place the motors gasket under the motors ,with the hoses facing the frame arm,tighten the two M3*8 screws.

4, Connect the water pipe, first use 8-8 pneumatic tee to extend out 8mm water pipe, then connect 8-6 pneumatic tee, and finally use 6mm water pipe to connect each nozzle

gasket

⚠ **Please be careful during the installation process, EFT will not be responsible for the damage and loss caused by improper use of the user.**

Appendix

Specifications

Frame parameter

E616S	E610S
Wheelbase：1628mm	Wheelbase：1404mm
Opened size：1720*1500*556mm	Opened size ：1495*1308*500mm
Folded size：1073*956*546mm	Fold size：945*848*500mm
Tank capacity：16L	Tank capacity：10L
Frame weight：7kg	frame weight：5kg

Recommended Motor

E616S	E610S
Motor：X8、8118	Motor：X6、6215
Propeller：28-32inch	Propeller：23-24inch
ESC：80A FOC	ESC：80A FOC
Maximum takeoff weight：36kg	Maximum takeoff weight：25kg
Supply voltage：12S	Supply voltage：12S

Governor

Parameter
Size：47*34*24mm
Weight：72g
Mounting pitch：54-60mm
Supply voltage：15-60V
Output voltage：12V
Maximum current：6A
Maximum power：72W
Range of travel：1120-1920μs
Signal：full—— high level   empty——Low level
The 3pin line is connected to the flight control level gauge detection interface. The drug break signal is output with high and low level signals. The water is high level and the no-water is low level. Before taking off, the air in the water pump needs to be discharged to avoid mistakes after takeoff.

Wiring diagram

Indicator description

Indicator status	status
Slow red light（2 times / sec）	No input signal, need to connect signal line
Red light flashing（10times / sec）	Input signal error, signal stroke is inconsistent
Red light	The input signal is normal and the pump is off.
Yellow light	If no water in tank,drug signal output is low level
Green light	If there is water in tank,drug signal output is high level.

* If you use a brushless pump, you need to know the information about the governor. Please contact us in time.

More product support

EFT   Website： www.effort-tech.com

The information contained in this manual is subject to change without notice.

If you have any questions or suggestions about the manual, please contact us through the following methods.

Number：0551-65536542

E-mail：effort_tech@163.com